

**Silent Image:
The CityBeat Project**

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1.

Introduction

This thesis consists of two parts. The practical part includes the design, creation and exhibition of a haptic installation that records the heartbeat of four different cities, called The CityBeat Project. The theoretical part includes research that focuses on the city and the senses, experience design and haptics. In the last part of the thesis, I develop a concept called the 'Silent Image'. The silent image is a counterpart of the visible image, or the latent information that materializes itself through the act of design. The CityBeat installation was an attempt to design a haptic silent image.

There is no doubt that the profession of a designer is radically changing. The areas of change are not limited to methods and technology. Our role within the Academy and within society has changed. It is now quite common for a designer to start a non profit organization or collaborate with a nuclear scientist on an abstract concept. What we are witnessing is the expansion and reinterpretation of our profession. This is the perfect environment to challenge and redefine our practice. I am using this favourable climate to surf away to the unknown and maybe beyond.

The main indicator of this overwhelming change within our profession is the rise of collaborative work, meaning collaborative environments and inter-, multi- and transdisciplinary perspectives on design practice and design research. These are not only ways of engaging and thinking about design. Collaboration is happening across all disciplines and levels of society, which will transform our ways of consuming and producing goods and relating to one another (Garcia, 2007).

As previously described, in such a fluid environment, it is indeed difficult to draw the lines around any design discipline. This fluidity is as limiting (impossible to define and critically examine) as it is liberating. For example, if the sight is the only sense we are operating with when it comes to graphic design, how could we employ more senses in our work? Tactility can be pursued not only with the medium on which the image is presented (paper, surface treatments etc.), but also without the image in a traditional sense.

Although graphic design does display certain tactile qualities, it usually does not affect how the message will be perceived. If something is printed on pleasing paper, touching it will feel pleasant but will not change the message significantly. Information can be felt as well as seen. It took us many years to learn how to read images. We had to learn how to read pictograms, colours and symbols. Absorbing information in a tactile way is not something new. In the past, people got a lot more information through touch, through our feet, the tips of our fingers and skin. Our ability to interpret this information was lost with the industrial development of our environment.

Cities are filled with visual information, which we need to digest in order to move through the environment. To avoid experiencing the overload of the visual material, could the visible image be replaced by an invisible one? Could we experience our environment in a more meaningful way if we were encouraged to use more of our senses? With the CityBeat project, I purposely avoided designing visual information and instead focused on tactile information. Perhaps the tactile cannot fully replace the visual at this time, but CityBeat was an attempt to overcome the hegemony of the visual.

The ideas outlined in this thesis are inspired by various thinkers and by literature in areas such as philosophy, novels, scientific research and academic articles covering design, sociology, urbanism and

architecture. I have combined all of these to give a broad perspective on the issues. I start by briefly presenting the CityBeat project and then move on to describe multidisciplinary and transdisciplinary practices. I continue by writing about the city and the senses and conclude with experience and haptic design. Finally, I visually present and describe the installation work.

CityBeat, Short Project Presentation

The CityBeat project attempts to reconnect people to their urban environment. We argue that, in modern western society at least, people move through the city with reduced sensory stimuli. A person's sensory awareness of the city exists at a purely functional level, as a way to move safely from point A to B. The reliance, therefore, is on the sense of vision and hearing. If a person spends the majority of their time in a city environment in this state, a type of touch sensory suppression occurs (Pallasmaa, 2005). Cities are growing and the CityBeat installation is a response to highly impersonal (and often digital) travel across the city space. We take a noise that represents the hustle and bustle of the city centre and transform that noise in a place remote from the source. The transformation takes a tactile nature, so that people can physically feel the information. We decided to concentrate on the metaphor of a heartbeat, since a primal biological function such as a heartbeat is something that can be understood by anyone. By comparing the city to an organism with its own heartbeat, we wanted to create an understanding that the pulse of the city is a collective contribution. We aimed to create an intimate touchpoint through which the public could meaningfully connect to the city environment.

CityBeat won an open call organised by Finnish Bioart Society, in collaboration with EPAC (European Public Art Centre). EPAC organised a series of exhibitions in seven different European countries and the CityBeat installation was exhibited in two countries,

Finland and Latvia. The CityBeat project was a result of a collaboration between a graphic designer and two students from the MediaLab department, one with a background in industrial design and the other in computer science. We had to combine our knowledge and communicate in a way that was understandable to all of us. Forming a successful collaboration was as important as the production of the work itself. Therefore, collaborative practices and current views on merging knowledge from different disciplines and through school programmes are explained in more detail in the succeeding paragraphs.

Towards Collaborative Environments

Design is striving to place itself in the Academy and one way of achieving equality with other disciplines is to reach across disciplines, to expand borders and gain new perspectives. Part of our zeitgeist is the fascination with crossing discipline borders and collaborating with different professionals who would not normally together. Internet and social media tools are facilitating collaborative multidisciplinary work. These encounters are happening on many levels and are taking different forms. For example, in 2008, MOMA (Museum of Modern Art in New York) produced a display of works that bridged science and design. In the exhibition *Design and the elastic mind*, they featured works that were not necessarily answering the needs of the market as would a typical design product do. Instead, they showed concepts and new perspectives that were conceived between disciplines, such as biology, technology and design. The exhibition made it very clear that the market will have to adapt to this new idea of design. It also made visible an important new design philosophy to a very broad public. One could argue that design is essentially connected to other disciplines, since the act of designing, by its very nature, crosses borders with other disciplines. Therefore, the idea of joining forces with foreign disciplines is nothing new. In fact, there has already been plenty of examples of such collaborations

throughout history. (William Morris's Arts and Crafts movement, Bauhaus school etc.) However, as we will argue later, employing methodologies that belong to other disciplines in a scientific way, under the supervision of Design Research, as well as consciously working in collaborative environments, is a more recent phenomena.

It is perhaps no coincidence that the year after the MOMA exhibition, Parsons – The New School for design – launched a new MFA called Transdisciplinary Design: "Parsons created the MFA in Transdisciplinary Design (TransDesign) for a new generation of designers, who want to address pressing social issues using new ideas, tools, and methods. Students work in cross-disciplinary teams, consider issues from multiple perspectives, gain insight from industry leaders and emerge with a portfolio of projects showcasing design as a process for transforming the way we live in the 21st century." In the same year, the School of Art and Design in Helsinki merged with School of Economics and School of Technology into Aalto University, which aims to offer a broader, more interlinked education, through courses such as IDBM (International Design Business Management). The course is explained on their website as a platform that aims to: "train skilled professionals for key roles in international, design-intensive business." In 2010, the University of North Texas (UNT) started implementing a new Masters of Art and Master of Fine Art in Design with a concentration in Innovation Studies (IS). On their website they explain: "The principal goal of Innovation Studies is to teach students from diverse disciplinary backgrounds how to use design-driven knowledge and skills to identify, theorize about and solve complex economic, social and environmental issues." These steps are a sign that Design Education is taking a new direction and it will affect how new students will think about and engage in design.

The growing number of such practices are proof that we will have to adapt to the new, extended understanding of what design is and learn how we can benefit from the services it will provide.

In May 2008, Swiss Design Network held a symposium entitled Focused: Current Design Research Projects and Methods. Several terms were explained in detail, such as Design Research or Research for, through and about Design. Design research is in fact similar to any other scientific research, but should not be confused with design practice. This falls under the category of Research for Design, which is defined as highly relevant for design practice, but not scientific enough for various reasons including its non-scientific nature or even occasional confidentiality issues (Brouillet, Findeli, Martin, Moineau & Tarragol, 2008). Research about Design lacks relevance for design practice, education and research. Designers should decide if this knowledge is relevant for them and how they could implement it in their work. Research through design (for which the operational concept is transdisciplinarity), should contribute to the improvement of design practice and as such have the virtues of both research for design and research about design. Research through design is often a project-based research and should have qualities that would contribute to knowledge and improve design practice, as well as design education.

Three end users of design research are: the research community, which would benefit from theoretical knowledge, the practitioners' community, which is interested in applied or useful knowledge and the educators' community, which wants applicable or teachable knowledge. There is no point in conducting design research that would not help any of these communities.

Multidisciplinarity (cohabitation of different disciplines within the same research project or academic program) in design research is quite natural and even necessary. If the purpose of design is to improve our lives, then all the micro-experiences, such as preparing dinner, taking a vacation etc. are actually a mix of many different disciplines (psychology, sociology, economy etc.). Another question concerns what kind of multidisciplinarity is relevant for design

research. Including too many disciplines, even though we need to strive for the optimal result, might not be the best idea. Also, it should not be underestimated that it is possible to achieve multidisciplinary within the same discipline.

What, then, is transdisciplinarity and why is it necessary for design research? The design project is only successful if the knowledge is applicable in practice and transdisciplinarity is transforming research into action.

For example, the Design and Alzheimer's disease project was a collaboration between the hospital Hôpital Local d'Uzès and the University of Nîmes. Instead of managing the project of improving the daily activities of Alzheimer patients as a design task, designers proposed carrying out real research and applied for grants.

The research group consisted of the following disciplines: cognitive psychology, neuropsychology, geriatrics, cognitive ergonomics and design. They purposely kept the number of disciplines small. The first task was to join their efforts in writing a research proposal. Each person presented the problems they saw from the perspective of their discipline and wrote a text about it for other members. In the end, everyone had an idea of the general problematics of the task. This requires focusing on the thoughtful understanding, not only of the substance of the texts, but also epistemological standpoints, the methodological specificities, the anthropological and philosophical worldviews, and the conceptual and terminological jargons proper to each discipline (Brouillet, Findeli, Martin, Moineau & Tarragol, 2008).

The process moved from pluridisciplinary (forming the group of various disciplines) to multidisciplinary (joining efforts in writing a proposal and understanding different points of view). The next step was transdisciplinarity, which in this case meant the actualization

of the joint effort of the research team. Their aim was not to contribute to the knowledge of Alzheimer's disease, but transforming the knowledge from different disciplines to address the task of improving the daily activities of patients. By this, it is clear that the research project was not meant to satisfy the needs of the scientific community, but of end users.

Another example of the formation of a transdisciplinary working model was developed by Jill Franz and Steffen Lehmann at Queensland University of Technology in Brisbane, Australia. Instead of working in multidisciplinary teams, architecture and interior-design students worked side-by-side on the same project. Franz & Lehmann (2004) call this model co-operative as opposed to collaborative. The general aim was not to learn from each other in teams, but rather to challenge students to move away from their discipline and use a more holistic approach.

The program was an answer to a specific situation in Australia, where collaboration between architects and interior designers does not occur very often, although it is assumed that it is. There are two types of encounters between these professions. Either interior designers are employed after all decisions have been made, or they start working with architects from scratch. In this case it is impossible for both disciplines to understand each other.

The elective was entitled "Inside of Outside: Redefining the Australian Beach House". The course was structured within the guidelines of transdisciplinarity (as cited in Nicolescu, 1997): "In transdisciplinarity, the concern is...that which is at once between the disciplines, across the disciplines, and beyond all discipline. Its goal is the understanding of the present world, of which one of the imperatives is the unity of knowledge." For students, it is not enough to simply acquire new skills and memorize new knowledge. Franz & Lehmann (2004) claim that the same goes for professors:

"...Teaching is something more than transmission and encouragement. It is facilitating conceptual and attitudinal change to the level where the student becomes an independent and critical learner...aware of the complex, relational and qualitative nature of the world..."

The course was structured in such a way that its transdisciplinary nature could be successfully developed. It was offered as an elective for students in their final year, since it is necessary to know what your discipline is in order to transcend it. The number of students was kept small. After the process of selection which was based on interviews and past work; five architecture and five interior design students were chosen for the studio. As previously mentioned, they did not work in teams, but side-by-side, in the same studio at the same time (the elective was conducted once per week for three hours during the 13 weeks). Guest lecturers from landscape architecture, urban design, graphic design and subtropical design contributed to the program. The space in which students worked did not have any poster or any other object that would imply that the space belongs to either discipline. At the end of the semester students received critique from professionals from both architecture and interior design, although the authors of the course now regret that they did not invite professionals from other fields as well.

The students were asked to design a non-stereotypical beach house. They were given an existing proposal of a beach house, which they could use in their work. Aside from the usual design issues, Franz and Lehmann encouraged them to think about localism and identity, time and space and other socio-cultural conditions.

The elective and its processes were also good ground for design research. In assessing the successfulness of the course, two methodologies (case study and action research) were employed. As a

case study, the elective shed some light on what it means to facilitate transdisciplinarity in an educational setting. The qualities of action research include: willingness to ignore boundaries when they restrict effective understanding and action, collaboration and context-centered process that solve real-life problems through theory and practice.

In conclusion, the final results of the elective were described. In the opinion of professors, the elective was successful in engendering a transdisciplinary attitude in students. Students approached the task in a holistic way. Some students (interior designers in particular) felt very frustrated with the process, because it was hard for them to keep up with other (architecture) students.

This project differs from the project described in the first review (improving the daily activities of Alzheimer's patients). They are both considered to be transdisciplinary, but the methodologies and the structure of the processes are contrasting. This could mean that transdisciplinarity in design can be achieved in different ways. It also implies that common working methods are not yet developed and are being 'designed' for each project specifically. This could either be because the idea of transdisciplinarity within design is still too fresh to be properly defined, or because different projects need completely different approaches.

Design is a universal human activity (Nzi iyo Nsenga, 2008): "Each human constantly designs artifacts, perceived in sets of ideas or philosophies and theories, or as programs of action and resulting material things." The massive production of sophisticated artifacts in the last century is the result of industrial ideology and transdisciplinarity is an answer to the challenges our world faces today with regard to the world economy and sustainability. The word design originates in a Latin word *signum*, meaning a sign. We use signs to assign meanings to things, persons, places or ideas. The act

of designating is more than just a human activity; it is a biological need. After all the basic needs are taken care of, humans are left with the need for knowledge, since knowing the features of our surrounding calms down the features of the cerebral cortex, which are stimulated by the same environmental features. There is an enormous amount to be known about the features and their connections and we are interested in knowing enough about it to respond to our inner drive for security, comfort and perdurance. Only a small amount of these features result in human contrivances or artifacts. In all human communities, some individuals are specially assigned to produce material or immaterial artifacts. This used to be the task of philosophers and artisans; it is the job of designers today.

Every design activity is part of a bigger, more complex structure in the world. None of the man-made elements occur in isolation, they are always a part of context of cosmic happenings.

Another influence on the use of human artifacts was the eighteenth-century philosophical movement known as the Enlightenment. The quantitative and functional ideology of that movement resulted in a non-complete approach to the complex world of previously mentioned cosmic happenings. Even today, we are living the consequences of this divided world. The production elements in the making of things and the consequences that occur in each stage of this production are seen separately. We did not fully grasp the fact that incidents have an effect on each other. Therefore, there is a need for devising new, more holistic happenings that are artifacts. These kinds of artifacts should fit harmoniously with our environment and our needs. Emphasis on functionality, cost minimization etc. has neglected the human element in designed artifacts. The Transdisciplinary movement is an answer to industrialism and its inability to satisfy humankind.

Basarab Nicolescu, a Romanian theoretical physicist, is the advocate of the Transdisciplinary movement. He explains the theory of transdisciplinarity, with the logic of the 'included middle'. Nicolescu (2002) argues that our existence is a proof of the co-existence of realities, the macrophysical and the quantum: "In the quantum world, things happen differently. The quantum entities continue to interact, regardless of their distance from one another. This appears contrary to our macrophysical laws." What connects these two realities is Transdisciplinarity, the logic of the third or the 'included middle', which is at the same time the macrophysical and the quantum.

The method of transdisciplinarity is based on the 'three pillars' of the movement (as cited in Nicolescu, 2008). Transdisciplinarity is a process by which one: Considers multiple levels of reality and their synergetic manifestation; Tackles any aspect of the subject under study as a microcosm of the overall cosmic complexity; Avoids a reductive framing of the "either/or" type, by adopting the augmented Lupascian logic of 'the included middle'.

How can we implement this method in our work as designers? Connecting the disciplines that belong to different realities or different areas of knowledge is the key to understanding knowledge. Merging knowledge from various disciplines can result in complex solutions that can answer the needs of our current fragmented society. Extreme specialization might help develop certain areas in detail, but it often neglects the big picture and gets lost in its own world. Transdisciplinarity means looking at and approaching the world in a comprehensive way, taking everything in account.

Designing products, services, experiences or visual material should be looked at from this perspective. We would need to look at the whole process, from the conception of one's idea, through its development, production and use, until death. Every angle of our

creation of things should be viewed not separately, but together. In order to do so, a dialog is needed. Since our current production is taking place across the universe and across different cultural contexts, areas of knowledge etc., we are faced with the challenge of how to understand this complexity. Nicolescu (2002) claims that the: "transdisciplinary approach will be an indispensable complement to the disciplinary approach, because it will mean the emergence of continually connected beings, who are able to adapt themselves to the changing exigencies of professional life and who are endowed with permanent flexibility that is always oriented toward the actualization of their interior abilities."

2.

Design and the City

One way of investigating cities is by using organisms as a metaphor. Several scholars are looking at the city through the human body, the senses and rhythms. A recent study (Webb, 2007) that quite literally compared cities to organisms, revealed that bigger cities provide less commodities for their residents: "In biological organisms, the situation is completely different. Larger organisms have greater economies of scale, and slower-paced lives...With the city, it seems, mankind has created an organism operating beyond the bounds of what is natural." Lefebvre argues that cities are always arrhythmic, referring to his theory on rhythm analysis and forever changing variations of city rhythms. But is perhaps the arrhythmic city showing signs of urban arrhythmia? Are we living within an organism that is sick?

Our experience of urban environments has changed throughout history. We use less senses in our everyday city life today than a hundred or more years ago which is inarguably the result of technology. Technological progress and a growing emphasis on hygiene has turned organic, smelly cities into clean concrete shells. Our senses have not become not less important, but they are used less (Steward & Cowan, 2007). We experience the city and architecture primarily through the sense of vision, although all senses should be considered in the construction of urban environments (Pallasma, 2007). Even though these arguments mainly address architecture, we can see that the culture in general suffers from sensory deprivation. Design is another area that often neglects our senses and is focused primarily on how things look. Some design disciplines are solely based on the sense of vision, for example graphic design, which is not meant to evoke any other sense than

sight. Advertisements, signs and images in public spaces all contribute to the hegemony of vision in cities.

The city is a complex subject and can be written about from many perspectives, from anthropological research to philosophy. Steward's and Cowan's *City and the Senses* and Pallaasma's *Eyes of the Skin* look at the city through our (sensory) body experience. Their arguments complement each other and they use similar evidence, although Pallaasma's writing does not aim to be as scientific. His examples of architecture mainly support his philosophy. LeFebvre's rhythm analysis reverses the look, analysing (bodies and their) rhythms through the city's events and infrastructure. Looking at movements that generate rhythms, through architecture, spectacle, daily schedules. Rhythm analysis is a method, a tool for observing the city. Simmel looks at the city from the sociological perspective; he sees the city dweller as a free but alienated creature. His freedom is the result of economics and his blasé attitude prevents him from really connecting to the environment. A more contemporary writer, Charles Landry, points out the benefits of designing spaces in collaboration with artists. A more holistic and sensible approach in creating spaces is analysed through *PROJECT*, an initiative which incorporates such collaborations.

City: Body, Senses, Rhythms

The impact of urban environment on different senses has until recently received little attention. The majority of information is thought to be perceived through the visual sense, although the other sensations also form an individual's particular sensory world, which remains central to city's life. The non-visual senses contribute to that process of contestation, directly reminding us of the sensuous life of the body and its embedment in urban life (Cowan & Steward, 2007). One type of evidence that describes the history of senses can be found in letters, diaries and travelogues. Another

contribution includes novels describing urban environments, such as the novels of Charles Dickens (1812-1870). His writing reminds us that, for both inhabitants and visitors, cities were experienced and represented as assaults on the senses. His stories reflect the Victorian era in Britain, when cities slowly transformed through industrialization and are as such a unique illustration of this specific period. This kind of evidence, which is based on personal testimony of fictional writing, is strongly influenced by the social and cultural context.

More scientific evidence comes from different investigations. Scholars examining issues of gender and health write about which specific senses were employed in structuring knowledge and how that affected everyday urban life. Another topic that has been explored recently is spatiality and how the mobile bodies have changed the perception and production of urban spaces (Cowan, A., Steward, J., 2007). Researchers are also investigating how senses affect the formation of complex semiotic systems that have facilitated human navigation in time, space and the social world of the city. The exploration of everyday objects opened up questions about tactility and consequently about production, distribution and consumption. The investigation of soundscapes gives another dimension to the auditory experience of the city.

An important aspect of how we view the city is the conception of the city as a theatrical space. The inhabitant becomes a spectator of different forms of social and cultural space (Cowan, A., Steward, J., 2007): "Interest in urban life as a mode of performance and in cultures of display and representation, combined with theoretical interest in modernity, has focused attention on the emergence of distinctively modern and visually oriented forms of culture."

In 1950, the Situationist international movement developed a critique of urbanism - Unitary Urbanism. Situationists argued that the

passive spectacle, the passive city, should be replaced by the playful city. They believed that industrialization would bring more free time and that this time could be used for playing. People could choose how to live in certain buildings and how to use our environments in a creative way. Unitary Urbanism would challenge the existing state, bureaucracy and our habits. The city should open itself to nature and should be in a permanent transformation. Situationists envisaged that cities in Cambodia and South-West Mexico and their suburbs could be gradually transformed into a jungle or a forest (Internationale Situationniste).

The transformation of the city into a greener space is on the agenda for contemporary city planning as well. Although these radical ideas from the 50s and 60s were formed as an answer to different problems that our society had then (war and its consequences), they now answer the modern problem, our planet.

Capital cities have high commercial activity as well as the richness and theatre of public rituals. They are dynamic and in the past often expressed forms of spectacular culture that was absent in other urban centers. Capitals have always appealed to immigrants, since they provide more opportunities. Immigrants in cities were often the cause of cultural inequalities and social differences, which were the result of their geographical and social spaces. This demographic and geographical expansion put strains on sensory experience. For example, the odor in early cities was so unpleasant that city authorities had to intervene to control it. In the past, the newly formed middle class distinguished themselves from lower classes through their emphasis on cleanliness and odor control (Cowan & Steward, 2007).

The growth of cities had an impact on the history of senses. Throughout history, the use of our sensory system has changed and that has affected how cities were experienced, understood and represented.

Touch

Even though touch is considered to be the 'lowest' of all the senses, it played an important role in the sensory experience of the early cities. Prostitution was (Cowan & Steward, 2007): "...a constant feature of urban life, even though its physical location within each city shifted over time as the general uses of space changed." The introduction of artificial light prolonged the business hours, which took place in spaces of entertainment and relaxation. The majority of the urban population was engaged in some sort of manual work. The stigma that was once placed on surgeons was gradually removed and people who dealt professionally with the human body ascended the social hierarchy (as cited in Cowan & Steward, 2007). Tactility was also embedded in the commercialized culture (18th century). People touched goods on display, passed coins or spit in the palm to make an agreement. Moving through the city had an impact on bodily sensation. Before the introduction of pavements, pedestrians were closer to the earth: mud, smells, dirt. Transportation not only shortened the distances; it also gave shelter. Contact with food and drink was reduced after the introduction of eating utensils (e.g. forks) and new hygiene rules in the 17th century. With traveling and new technologies, letters and telegrams replaced human communication.

Due to the rapid industrialization of our environment, we need (or are exposed to) less interactions with other people. Instead, we interact more with technology. Pallasmaa (2005) argues that suppression of touch occurs in modern environments. Touch is the most basic sense and is of vital importance for our survival, as we know from well known studies, where human deprivation or deprivation of touch had disastrous consequences (mother deprivation on monkeys by Harry Harlow, University of Wisconsin, or various case studies of Romanian orphans). All these studies show that touch is absolutely necessary for our mental, social and physical

development. Simmel argues that the modern day city makes us feel alienated, not only from our environment, but also from each other. If we made our environments in a way that would encourage interaction with others, could that result in a less isolated experience of life in general?

Sound

Changes in the urban environment are perceived through fluctuations in the urban soundscape, its rhythm and volume. The city's environment is a combination of patterned sounds, chaotic noise - speech, traffic, song, industry, church bells, street cries. Before the improvement of street lighting, sound was an important weapon in avoiding street danger after dark. The seasons and time of the year all produced different sounds (e.g. spring carnivals). Gas lighting, urban traffic (horses, asphalt) and construction contributed to the auditory experience of the city. Demographic, social and educational changes were represented through speech patterns, dialects and accents. Street music and celebrations were another, organized part of the city's sound. Middle class campaigns against street noise show that the noise in the city was regulated (Cowan, A., Steward, J., 2007): "The fight against street music represented a struggle for control over urban territory against not just the lower orders, but also foreign influences."

According to Lefebvre, noises and movements generate rhythms. We can listen to the city in the same way as we listen to a musical symphony. The sound of construction work and traffic accompanies the life of the city. We can tell the difference between different parts of the day or night based on the city sounds and we use sound to move through our environment successfully (ex. sound of the traffic light). Sounds in the city nowadays are much less varied and silence is considered to be a valuable part of the quality of life in residential areas, for example.

Smell

Different areas of the city and various social groups were separated from others by their smell. Particularly strong smells came from slaughterhouses. The smells of tanners and dyers, brewing or cooking, of concentrated coal smoke, festering rubbish and excrement, discarded entrails and putrid meat and fish formed part of the early city. The smell travelled with the wind and spread the stench to a wider area. These odors were so embedded in the city's environment that they were tolerated by its inhabitants and only questioned by visitors (mainly from the countryside). The smell of poverty was another thing that distinguished the upper classes from the poor (Cowan & Steward, 2007): "Odors were associated with those identified as 'outsiders' or 'other,' such as ethnic minorities and given positive or negative values by those of the host community around them." Also different professions differentiated themselves through smell. For example, the clothes of artisans and shopkeepers were impregnated with work-related odors.

We can see that as the tactile encounters in the city became reduced, a similar process happened in the history of smell. Our society and its suppressive regimes managed to slowly eliminate sensory experiences. Smells in the modern city are organized; they belong to certain areas that are allowed to carry odors, such as farmer's markets. Unless we pass by a restaurant with a distinct smell (e.g. McDonalds, with its smell of fried food), no odors really disturb us. Cities without distinct smells are considered to be more progressive and more technologically advanced. The control of smells is a reflection of the control of our spaces.

Taste

Places are often defined by the gustatory and olfactory experiences they offer. How and when food was consumed was a function

of social class, gender, ethnic and religious affiliation. The growth of cities had a big impact on the food production and distribution infrastructure. The introduction of processed foods changed our eating and drinking habits. Also, the increasing interest in health issues had an impact on our way of eating. In the early cities, taverns not only provided food and drink, but also served as important public arenas, where people gathered to engage in political discussions. For example, the growing number of restaurants and cafes in Paris encouraged eating out and these spaces became places from which the 'spectacle of urban life' could be watched in comfort. One of the texts describes the importance of beer consumption in the evolution of Munich from a small town to a modern city. Breweries and taverns provided a place for the lower classes to enjoy a semi-public urban life, which strengthened their identity and formed patterns of sociability. Taste became an important part of the city; cities became associated with different foods, such as Vienna with Sachertorte, Munich with beer etc.

Vision

The visual spectacle of the city is represented through many events, such as carnivals, religious events and promenade. We do experience the city mainly through the sense of vision. Cowan, A., Steward, J. (2007) argue that the reason why vision became the highest on the hierarchy of senses is the introduction of the printing press, which made text and images widely accessible. Before the printing press, information and knowledge were passed on orally. Stories were told or even sung.

Along with signs and symbols, architecture plays the biggest role in the visual perception of the city. Different feelings can be conveyed through architecture. A good example is the nationalist and imperialist ideologies, which produced vistas that represented the power of the state (LeFebvre, 1974): "The arrogant verticality,

especially of public and state buildings, introduces a phallic or more precisely a phallocratic element, into the visual realm; the purpose of this display, of this need to impress, is to convey an impression of authority to each spectator."

While the sense of vision became more enhanced, the separation of other senses, particularly from touch and hearing, occurred. Public spectacles put people in the role of spectators instead of participants, as outlined in Guy Debord's *Society of the Spectacle*. Debord claims that the eye can be easily deceived. The world is shown to us through images, which serve as manipulation. Because we only see the world and are not encouraged to feel it, the sight becomes the predominant sense: "Since the spectacle's job is to use various specialized mediations in order to show us a world that can no longer be directly grasped, it naturally elevates the sense of sight to the special pre-eminence once occupied by touch: the most abstract and easily deceived sense is the most readily adaptable to the generalized abstraction of present-day society."

An analogy could be found between Debord and his *Society of the Spectacle* and the *Allegory of the Cave* by Plato. In both cases people are deceived by images, by the imaginary world. The true reality is hidden and the artificial one is controlled by the sense of vision. According to Debord, the control of visual production (including mass media) is the control of the truth. The state or the ruling class benefits from this control and it is therefore of its interest to celebrate the sense of vision. By worshiping images and artificial reality, we deepen the distance between ourselves and the world. By maintaining our 'image', we agree to lose our true self. A number of analogies could be made at this point to our representation in social media (Facebook, etc.) or our general desire to control how we would like to be perceived by others in general. The true reality could only be seen with all of our senses. We might deceive the eye, but our sense of touch favors the truth.

We live in a world that is ruled by vision. The hegemony of vision is criticized in detail by Finnish architect and philosopher Pallasmaa, who argues that the suppression of other senses creates a distance between the human and the reality.

In the history of philosophical thought, the sense of sight and the mind have often been considered equivalent to one another (as cited in Sloterdijk, 1987): "The eyes are the organic prototype of philosophy. Their enigma is that they not only can see but are able to see themselves seeing. This gives them a prominence among the body's cognitive organs. A good part of philosophical thinking is actually only eye reflex, eye dialectic, seeing-oneself-see." In the Renaissance, the hierarchy of senses celebrated vision as the most important sense and in our technological culture, the senses became even more separated: "Vision and hearing are now the privileged sociable senses, whereas the other three are considered as archaic sensory remnants with a merely private function, and are usually suppressed by the code of culture (Pallasmaa, 2005)."

By neglecting other senses, architecture and cities do not take our whole bodies in account (Pallasmaa, 2005): "The growing experiences of alienation, detachment and solitude in the technological world today, for instance, may be related to a certain pathology of the senses." The modernist thought has triggered our intellect and provided a foundation for technological innovation, but has left us 'homeless', since the visual world of today does not address our memories, imagination and dreams.

Occulocentrism has had its critics among philosophers as well. Descartes, Nietzsche, Scheler and a large number of French philosophers all questioned the hegemony of vision. Some believe the reason for emphasizing vision in the last decades relates to the never ending production of images and the rapid progress of technology. Space and time have slowly merged with the availability of

visual information. The only sense that can keep up with the world and its speed is sight.

The eye seeks domination and deprives us from empathy, compassion and participation with the world. The Narcissistic eye (Pallasmaa, 2005) is concerned with self-expression and the Nihilistic eye purposely isolates the body and advances mental detachment. The sense of touch could not be capable of a nihilistic attitude because of the nearness and intimacy that this sense creates. Visual production is separated from emotional involvement - images do not allow us to focus and participate. Before vision, hearing was considered to be the most important sense. It is in fact the shift from oral to written speech that made vision more prominent. The hegemony of vision is therefore a result of printed words and images (Pallasmaa, 2005, Cowan & Stuart, 2007). The dominance of the sense of sight separates us from our environment, while other senses emphasize our belonging to the world. Art and architecture should reconstruct the holistic experience of the world, perceived with all of our senses.

Construction and architecture in traditional cultures is guided by the body. This kind of architecture is not visually or conceptually dominated, as is the case in Western architecture. With the Western city, one has the feeling that it is only meant to be looked at and not lived in. Buildings are symbols of our time; skyscrapers reflect wealth and economic power. In the last decades, visual culture has aimed to be striking and controversial, to impress the eye. Architecture itself aims to impress us as a picture does and is therefore losing its plasticity. The world can be looked at as a set of potential photographs (as cited in Sontag, 1977).

With the loss of tactility, architecture becomes inhumane, unreal. It is transformed into stage sets for the eye, which lose all authenticity in matter and construction. This is exemplified with building

materials that are popular in the construction of recent architectures; ageless materials such as glass, enameled metals and synthetic plastics reflect our fear of death and our quest for immortality. With an environment that does not evoke our senses and deprives us from experiencing the real world, there are consequences (Pallasmaa, 2005): "The ceaseless bombardment of unrelated imagery leads only to a gradual emptying of images of their emotional content. Images are converted into endless commodities manufactured to postpone boredom; humans in turn are commodified, consuming themselves nonchalantly without having the courage or even the possibility of confronting their very existential reality."

LeFebvre, a French philosopher, looks at the city in another way. He observes the city, looking down on a busy Parisian street. In the midst of noises, talking, cars and moving pedestrians, rhythms are detected. Two types of predominant rhythms emerge - cyclical rhythms, produced by schoolchildren, shoppers and tourists, whose daily schedules provide a frame for repetition. These rhythms have big intervals, as opposed to the second type, alternating rhythms, which have short intervals and are produced by cars, people with regular schedules, employees and bistro clients (LeFebvre, 2004). Interactions between these rhythms create the liveliness of the city. These are also present at night, albeit modified and slowed down. Day or night, rhythms in the city remain arrhythmic.

At first sight, objects and happenings coexist simultaneously. A closer look reveals that each tree, body etc. has its own rhythm. Each has its own time and place, past and future. The existence of all these elements resembles a musical symphony.

The media and popular images create a simulation of the truth, of reality, which seems closer than it actually is (for example by showing news from distant countries). Similarly, the view from a window

could convey a feeling of spectacle rather than allowing us to see the real spectacular image. In order to see the real rhythmic city, one must dedicate time and attention to observation.

Rhythms and their behaviors (LeFebvre, 2005): "show that somewhere, there is an order which comes from elsewhere and reveals itself." Rhythms are intimate reflections of the State, which is not visibly present. There are other horizons that are not present, yet they show themselves through different orders, rhythms. One example is leisure time (visible), which is a product of division of labor (invisible). The view from the window is not a mental space that observes something abstract. It is a practical site that allows us to see more than just everyday spectacles. Through this gaze, the city or the Unknown, is perceived or guessed at.

Later on, LeFebvre sets out to find a determinant rhythm, a hierarchy. The first ones to determine the rhythm are human bodies (which direct the measurements of windows, doors...) Man-made architecture (bistros and shops) and architecture that transcends the body scale (e.g. Centre George Pompidou) both represent the time they were made in. People go and see the buildings, which were not intended to be looked at, but to offer itself to the gaze. Neighborhoods and people change; the city reforms itself and squares and junctions are settings for public spectacle: meeting places, spontaneous public theatre. People wander around without a goal and the situation, looked at from above, reminds us of the sea, the tide, flux and reflux. At around ten o'clock in the evening, sounds and movements become quieter.

The rhythms of the city are much more varied than the rhythms in music. They constitute everything: advertising, culture, the arts, games, propaganda, labor, urban life etc. All these events carry meanings and can only be recognized through our senses (LeFebvre, 2005): "No camera, no image or sequence of images, can

show these rhythms. One needs equally attentive eyes and ears, a head, a memory, a heart." A memory is necessary to understand the present rhythm. Remembering previous moments helps us understand the present. The scene from the window is a moment in time as experienced by the observer - it is his time, together with his interpretation (LeFebvre, 2005): "(the observer) knows that he takes as first reference his time, but that the first impression displaces itself and includes the most diverse rhythms, as long as they remain to scale."

A man is a creature that perceives the world around him through differences. Slight differences consume less mental energy than big differences; therefore living in an environment that is filled with intense differences, such as the metropolis, is more demanding. The intellectual character of living in the metropolis comes from the rational manner with which one deals with one's environment. Becoming less sensitive to the environment and more protective towards ourselves happens naturally in the metropolis, since it is impossible to respond to all the stimuli around us.

The behaviour caused by being indifferent towards things is best described as the blasé attitude (Simmel, 1903): "...the meaning and the value of the distinctions between things, and therewith of the things themselves, are experienced as meaningless." Perhaps one way of overcoming this attitude is to provide meaningful experiences in the city that could not leave us unaffected.

The intellectual, blasé character is best explained with the connection to the economy. The metropolis has always been important for the economy due to the concentration of commercial activity. The economy and the intellectual nature share a commonality in how they treat persons and things. They are both indifferent to all things personal, since they cannot be understood only through reason (Simmel, 1903): "Money is concerned with only what is

common to all, i.e. with the ex-change value which reduces all quality and individuality to a purely quantitative level." Simmel argues that money hollows out the core of things, their specific qualities and uniqueness. In smaller communities, the purchaser and the maker would know each other and form a relationship through the sale. In the metropolis, this relationship cannot exist anymore. The calculability of things became the calculability of relationships.

We treat the value of things in the same way we treat people. If we are indifferent to things, we act like strangers to one another. Since: "our mind responds, with some definite feeling, to almost every impression emanating from another person (Simmel, 1903)", it is unnatural for us not to react to others, although it is impossible in an environment such as a metropolis to be able to form relationships with everyone around us. Smaller communities are better at preserving themselves and more controlling. An example is the ancient polis, which seemed to have the character of a small town. We can gather that the excitement of ancient Greek life, for example, was caused by the conflict between the inner and external oppression. The main benefit of living in a metropolis is the complete freedom it gives you. On the other hand, the main downside in the feeling of loneliness within a crowd, which is something we do not experience in smaller towns.

An important feature of the metropolis is cosmopolitanism. While small towns remain closed, the metropolis opens up to other influences and cultures (Simmel, 1903): "A person does not end with the limits of his physical body or with the area to which his physical activity is immediately confined; rather, it embraces the totality of meaningful effects, which emanates from him temporally and spatially." The same goes for the metropolis which enables us to reach out and express ourselves in a more free way. The concentration of commercial life is leading to the specialisation of professions. Where a person once had to struggle with nature to make

a living, in a the metropolis, the struggle is between people. We are constantly inventing new ways of making a living. Specialisation creates new needs for people and at the same time gives people a feeling of 'being different'. Specialisation is also a way of gaining status in the metropolitan society. The growth or the development of the society is characterised by the whole and not by the individual, which is perhaps the reason for the need to be appreciated as an individual among the mass. This need is also the engine behind the division of labor.

When everything is calculable and the personal is becoming lost, this process creates a counter process of over-exaggerated individualization. When one manages to liberate oneself from the historical or objective burden that would normally assign a certain value to his existence, this opens up a need for a new value system. Uniqueness of character and a person's indispensability could serve as the new measure.

If the city is a space where the personal is lost, we should invest time and resources into making environments that would enable meaningful interactions between the space and the individual, and between different individuals. It is possible to overcome the alienating nature of our environments. There is a general belief that culture can create better places. Statements such as 'Culture adds value' or 'the arts add distinctiveness' summarize the popular opinions. Although we agree on the fact that artistic thinking is important in place making, the arts still remain underestimated in the actual building of our environments. For instance, Arts and Business (AB) and the Commission for Architecture and the Built Environment (CABE) in London developed PROJECT – engaging artists in the built environment. PROJECT provided financial resources to support collaborations between artists and city planners. Every city has features that people like, such as a small park, a well crafted building etc. but nothing really works as a whole. People prefer older fabric

instead of the new, although more than half of the city changes within a lifetime. Designing a new city that would make us feel as good as the old one does without replicating it is a challenge. For example, people prefer intimate places, but with our safety regulations, we cannot build narrow streets, since a fire engine needs at least twice its width to operate well.

Building cities is a matter for professionals, who are using their specific knowledge. The emphasis in city building is on the hardware of cities, the safety issues etc. Unfortunately, it is often forgotten that what makes places is how people feel about them and that would demand a better integration of the professions that are concerned with softer issues: social scientists, historians, artists etc.

If we want to (re)create a sensory appreciation of the city, we should either embed the 'softer' knowledge with training programs etc. or include professionals dealing with this knowledge as part of the team (Landry & Brookes, 2006). Cities are sensory experiences, but are currently looked at (and experienced) as lifeless, technical environments. We are consequently experiencing the city with a low level of awareness and in a very narrow way.

The city is underestimated as an emotional experience. Professionals dealing with the creation of cities do not question how it feels, but rather whether it meets a particular specification'. The history of cities has shown that there are certain urban features that do not work, for example high-rise blocks, which make people feel diminished and engender fear. The discipline of environmental psychology measures the effect of the physical and social environment on the health and wellbeing of individuals and communities.

Knowledge of culture is essential when designing spaces. Different cultures have different needs and customs, so we have to keep these differences in mind. In Italy, for example, it is common to go

for an evening stroll, passeggiata. If strolling is important for the residents, there should be spaces that enable this activity (Landry & Brookes, 2006). Buildings and places that are emotionally and culturally important for the residents will stand the test of time.

The artistic practice of the last few decades tries to present itself as relevant and needed for the greater public needs such as economic growth, reduction of crime, health and education improvement etc. This shift is happening mainly because the arts is looking for a share of the money that is reserved for these kinds of endeavors. Although the arts primarily have no place in these kinds of political activities, it is true that employing artistic thinking can help these plans come into life more successfully. For example (Landry & Brookes, 2006): "The point of achieving economic growth is not that everyone shall be rich, but that everyone should lead a better life...It would be well to keep in mind that the object of economic policy is to achieve a better life, and that the expression of 'betterness' is to be found in the arts and culture."

The arts can be looked-at in three ways with regard to place-making. Artists can create places that encourage free and liberal intercourse, places which embody excitement, pride, love, sense of belonging etc. Artists also add value in financial terms and add distinctiveness. Another important aspect is that if places that consciously draw from the artistic thought can be made, this reflects the progress and success of society.

Building cities is successful when it involves all the disciplines and is not focused solely on the physical. We should take the following into account when designing the urban space: understanding human needs and desires, generating wealth but bending the market to the need of the space, urban design etc. A good place tells a story about itself. If modern buildings were made to look ageless, they probably have no memory and are unable to tell stories.

The building is not just an individual element, it is a part of the whole, it is connected to the street and to the neighborhood. Everyone is affected by the quality of life in the city, but it is less accepted that everyone actually creates it. We tend to believe that only professionals that are responsible for the actual physical creation are in charge of creating our environment. If we agree that employing other disciplines could be beneficial for general well-being in the city, we need to overcome the segmentation of disciplines. People who are good at what they do are usually capable of having a dialogue with others. Although specialization has made a significant contribution to our development with innovations and inventions, we have had to pay the price. Specialization can prevent us from seeing the big picture. The idea of wholeness and looking at the big picture derived from ecological awareness, which made us understand the cycle of things better. This also brought up the importance of cultural literacy in the design of urban places. Cultural literacy helps us to understand what is important for people and what meaning places have. Architects and city planners are not the only experts; ordinary citizens also know what they want from a place and their desires and opinions should be taken into account. We should be able to think differently and see connections between things. The city is an experience and should be built from the emotional perspective, as well as from the perspective of cultural literacy.

If different fields cannot find a common language, this can result in a conflict. Professional defensiveness is not very helpful when we: "need more cross-connections between planners and historians, developers and sociologists, and surveyors and health professionals or artists and property developers (Landry & Brookes, 2006)."

The value of art in place-making is underestimated, although the process of building places is in fact a very creative one. This process could benefit from the arts, as was demonstrated in the

PROJECT (an initiative by Arts and Business, AB and the Commission for Architecture and the Built Environment, CABE), where artists were recruited to work on urban projects. Their involvement was generally well accepted, although their role within the actual project was very unclear in the beginning. They were not working on an actual artistic project, but were involved in the administration and strategic planning.

There are many benefits in having an artist as a part of the team, although there are also disadvantages. For example, artists can have difficulty in adjusting their ideas to fit the whole and can be self centered. On the other hand, artists offer a different perspective and are able to describe their experiences in a clearer way. The understanding of emotions and experiences in place-making seems to be one of the main strengths of the artist within this kind of team. Another important advantage is that artists are able to act as intermediary between different parties. They can communicate the ideas of others (through storytelling or pictures) and help them be clearer in what they want.

How should we work with artists? They should be invited to the project very early on. The PROJECT revealed that projects that appointed the artist in the early stage were generally more successful later on. By inviting the artist to join the team at an early stage, you put a value on their contribution, in the same way you value professionals who are needed for the project. Working with artists should also be carefully managed. Their practice is very different from that of architects and developers and they should find the right way to fit in. Also, the contractor should be willing to agree to the terms of this kind of project. The artist's role within multidisciplinary projects should be clear. They should be engaged in the same terms as other professionals and paid accordingly. There are many benefits in inviting artists to take part in the creation of cities and there is a suggestion that the key word of this engagement

would be 'pleasure' (Landry & Brookes, 2006): "There is more pleasure to be had from places which bear the mark of art and artists, than from those which do not." We can all benefit from places that evoke pleasure.

Experience Design

Experience design is one of the youngest design disciplines or areas of research. It has transdisciplinary qualities, since it is strongly interlinked with cognitive sciences, psychology, anthropology and a number of other disciplines. It quite freely borrows techniques, methods and tools from other fields. An experience can be looked at from many different angles; each experience has different meanings to different people and that makes it impossible to describe or capture in any form. Bill Buxton, the author of *Sketching and Experience Design*, even describes an experience as something that cannot be photographed. Experience is not something that can be seen, but it can be felt in various ways.

The elements that constitute an experience are knowable and reproducible, which makes them designable (Shedroff, 2001). Interactive media is based on delivering an experience and one way of defining an experience is by investigating its boundaries. Some are ongoing, but others have a start, a middle and an end. To have an experience, we must first feel an attraction. This can be a need or a cognitive signal to our senses. The experience should be sufficiently different from the environment to engage us in interaction. Another important part of designing experience is conclusion which should reward our attention and provide a sort of resolution. According to Shedroff (2001): "Whether it is due to attention span, energy or emotion, most people cannot continue an experience indefinitely, or they will grow tired, confused, or distracted if an experience - however consistent - doesn't conclude." Another element that contributes to a good experience is an extension,

something that can prolong the experience and connect it to other forms of experiences.

In the market, all experiences compete with each other, regardless of the medium of their presentation. The most successful experiences are the ones that surprise us by confronting our beliefs and challenging our knowledge. For example, there is the childhood memory of excitement in amusement parks. The park plays with all of our senses and the novelty of experiences is overwhelming and well remembered. Novelty itself is not enough to create a good experience. Meaning and purpose should accompany an experience if it is to have a profound impact on our life.

While Shedroff argues that experiences can be designed, McCarthy & Wright claim that we cannot design experiences, but can design for an experience. They base their arguments on the work of Mikhail Bakhtin and his analysis of novels. Bakhtin was a Russian literary theorist, famous for his analysis of Dostoevsky's work and the theory of polyphonic novels.

User experience is sometimes wrongly defined as something that controls the user through an interaction. In this case, the user is looked at as being passive and the designer as controlling. When people interact with technology, they tend to have richer and more complex experiences. In general, when people describe experiences they had, they usually give more context and describe why they did it, how it felt, what it meant for them and what value it had in their lives. Describing emotions is a difficult starting point for science; Wright works in the Department of Computer Science in the University of York, UK and McCarthy works in the Department of Applied Psychology in University College Cork, Ireland. Therefore, they find it easier to address these subjects through art and literary theory.

McCarthy and Wright (2005) argue that: "human experience can be usefully viewed as constituted by continuous engagement with the world through acts of sense making on many levels." Meaning emerges through all the elements of an experience. Also, what one brings to the experience and what a designer creates is equally important. This is illustrated by the example of watching movies (as cited in Boorstin, 1990): "The moviemaker must be able to experience the movie in the way he hopes the public will, but in addition must know what it takes on a technical level to help the public construct that experience." This implies that we cannot design an experience, but we might be able to design for an experience. Experience can be mediated through designed artifacts, but cannot be controlled.

The relationships between interaction designers, users and designed artifacts can be compared to those between characters, authors and plots. The experience of reading a novel has many layers. We feel and identify with the characters, but we also bring our own world to reading and we understand it, based on our culture, values and education.

Bakhtin was investigating different literary genres and was particularly interested in something he called a polyphonic novel. This type of novel has the following characteristics. It emphasizes the characters rather than the plot. Characters and their goals are not determined by their situation. An important feature is the dialogue between characters, which is usually intense, with an unpredictable outcome. Time and place are very important for the characters in polyphonic novels. They behave as they do because of the social context of their time and grow and change because of their environment and what is expected of them.

Bakhtin's observations can be used in designing for experiences. Designers should perhaps write narratives in order to understand the audience better. Writing ethnographic vignettes (for example

short notes, observations of the daily routines) has already helped designers in the past. Another method that is used in designing interactions is scenario-based design. Usually scenario-based design tends to emphasize the plot over characters. It regards the user's motivations, values and attitude as irrelevant, although they should be very important. To be able to explore how people respond in certain situations, we must first know how people feel and react. One problematic aspect of interaction design is how it looks at people who are interacting. They are referred to as 'users' and their thoughts and feelings are not considered to be important for interaction. An example of a method that takes these observations into account (as cited in Blythe, Monk and Park, 2002) is technology biographies technique: "As part of their ethnographic studies of people's domestic lives, they asked their informants to tell them stories about technology in their homes and their personal histories with it."

To understand people and their interactions with design, it is necessary to remain on the outside. It is not enough to enter a culture and mimic it to understand people. Everyone has meaning and potential they are unable to see, but can be seen through a dialogue with someone from the outside. The dialogue works in both ways, therefore both parties can learn new things about their culture. Bakhtin refers to this kind of dialogue as addressive surplus (as cited in Bakhtin, 1984, p. 299): "The addressive surplus is the surplus of the good listener, one capable of "live entering" (vzhivanie). It requires an active (not a duplicating) understanding, a willingness to listen." The author and the character, or the designer and the user should exist on the same plane.

For Bakhtin, there is no clear distinction between writing and reading the book. Every author has read other books before writing the first one. Each text carries its own meaning and potential, which the writer senses. A book could have a number of other potential

meanings that are not visible or understood in the first place (as cited in Bakhtin 1981): "To put the point paradoxically but precisely, authors intend their works to mean more than their intended meanings. They deliberately endow their works not only with specified meanings they could paraphrase, but also with 'intentional potentials' for future meanings in unforeseen circumstances." Great novels, as well as other great works of art or design, have a surplus of possible meanings and interpretations. In design, allowing different interpretations of designed artifacts or interfaces is problematic, because we want the audience to understand it in a specific way. McCarthy and Wright (2005) argue: "If we take seriously the idea that a properly positioned designer can exploit the potential hidden in genres of interaction, we are led to conjecture that we can design from the imagination to engage the imagination."

In the chapter *The city and the Senses*, we already mentioned the writings of Charles Dickens, who illustrated the Victorian city. Novels by Dickens fall into the category of polyphonic novels (Smith, 1996) and addressive surplus can occur through our understanding of his characters and their experiences. Novels can explore the impact that the city environment has on individuals. Not just reading about the city, but also writing about our own experiences in the city, might help us design our environments better.

Battarbee (2007) describes another angle of experience design, co-experiencing. She argues that the current experience design research is neglecting the role of 'social interactions with others' in designing experience. Furthermore, she proposes that the newly coined term co-experience could be used, instead of user experience. People are more than users and experiences are 'lifted up' through social interaction.

The relationship between design and experience can be researched with three strategies (Battarbee, 2004): product-focused,

human-focused and interaction-focused. Product-focused strategy takes the product as the source of experiences. Human-focused strategy looks at people and the experiences they would like to have. Experience design crosses over to psychology, by analyzing people's desires and emotions. The third strategy brings the process of experience into focus. Timeline of experiencing becomes important. For example, in this case, the product might not change, but the circumstances do and this affects the experience that is being researched.

All these ways of researching experience only discuss experiences from the point of view of the individual. Interaction with other people, such as describing experiences to others, is what makes sense of experiences.

Next, Battarbee (2007) takes a philosophical detour and explains symbolic interactionism (as cited in Blumer, 1968) with the following example on the three principles of this theory. The first principle is that people act towards things. One might see a chair as something to seat on, while someone else sees it as Le Corbusier. The second is that meanings are created through interaction with other people. If someone points out that the chair is Le Corbusier, our perception of the object will change. The third principle is that meanings are handled and transformed through an interpretive process with things people encounter. If we get compliments because of the Le Corbusier in our living room, we will appreciate the chair even more. On the other hand, if someone finds out that the chair is not the original, will have to deal with the disappointment that this will bring. People learn social behavior through symbolic interactionism. This concept is only meant to illustrate how co-experiences work and can be used in early stages of user experience research. Battarbee refers to this kind of 'helping' concepts as sensitizers, scaffolding around the final structure. To describe an experience in terms of social interaction, Battarbee introduces the

concept of 'Lifting up': "Social interaction lifts things out of fluent, ordinary experience, keeps them as focal points of experience, and then removes them from common focus." In other words, when we encounter a relevant experience, we share it with others. What is relevant is determined through social codes. Reciprocating and rejecting are two extreme responses to 'lifting up.'

The methodology for designing through co-experience with prototypes requires a number of elements. (Battarbee, 2004; Kurvinen, Koskinen and Battarbee, 2006) Ordinary social setting, real context and more than one person should be analyzed. The research should be naturalistic and various methods and tools should be used in parallel to capture the complexity of experience. Designers should openly observe and interpret how people use the prototype. The observation should last for a couple of weeks and should take social interaction into account. It should also pay attention to how events unfold and what may hinder or enable people's ability to co-experience. During this process, people should have the time to create meanings and lift up the experiences that they share with others. The time should also enable people to lose interest and let attention wane.

In the following sections of the article Co-Experience: Product Experience as Social Interaction., Battarbee describes prototyping of proactive technology with co-experience. Proactive technology is trying to invent an environment in which we would not need to give commands to electronic devices at all times. The study shows how people respond to this kind of technology and whether or not they could accept it.

In conclusion, studying co-experience is differing from user experience. This is outlined with three main differences. There has to be a theoretical framework that we can use to 'build' our research on. Social interactionism was an example of such a sensitizing concept

in this article. Secondly, we should observe social action. Prototypes must be made with social interaction in mind and should be observed in real social contexts. Lastly, we should interpret data that we have gathered through installing the design in the real world. People will hopefully make sense of it and lift up the experiences in social interactions with others. Designers need to understand why and how the reciprocation of experience happens.

Haptics: Tactile Information

Haptics explores human sensing and manipulation through touch. The term was originally used in psychology and has only recently been used in connection to technology – machine touch and human-machine touch interactions. The MIT Touch Lab (Srinivasan, 2005) defines haptics as: “all aspects of information acquisition and object manipulation through touch by humans, machines or a combination of the two; and the environment can be real, virtual or teleoperated.”

The three main areas that haptics is exploring today are human haptics, machine haptics and computer haptics. Since this field is so multidisciplinary, a number of other disciplines are involved in the research and production processes, such as biomechanics or mathematical modeling and simulation. Since the quantity of information we are receiving every day is growing, we need to find new ways of dealing with this information. Currently, our haptic system remains underutilized and there is a critical need to explore new efficient ways to interact with information.

Virtual environments (virtual reality) can create a world through the visual and auditory senses. If we add haptics to the creation of virtual worlds, we could use this technology in a number of human activities. If we could manipulate and sense through touch, we could immerse ourselves in the virtual world even more and would open

up new possibilities. Virtual environments that do not provide the experience of touching the virtual world seem deficient and seriously handicap human interaction capabilities.

Haptic interfaces enable manual interactions with virtual environments. Interfaces that can give the user a natural sense of touch and feel such as force-reflecting haptic interfaces are better than the common interfaces (keyboards, instrumented gloves etc.). To develop better haptic interfaces, we need to know more about our interacting with touch in general (Srinivasan): “How or what do we perceive, how do we manipulate and how are these related to task performance.” If we want to create the same sensations as in touching the real object, we need to generate the same forces that are imposed on the user’s skin. Haptic perception is caused by the nervous system that is sending information to our brain. Our hands, their surface and volumetric physical properties are very complex. The fingerpad, for example, is exhibiting complex mechanical behavior: heterogeneity (diverse in character or content), anisotropy (having a physical property that has a different value when measured in different directions) and rate and time dependence. Touch information that the human brain can distinguish can be divided in two classes. Tactile information is conveyed when we touch something static and kinesthetic information refers to the position and motion of our body.

Srinivasan refers to haptic interfaces as: “devices composed of mechanical components in physical contact with the human body for the purpose of exchanging information with the human nervous system.” Haptic interfaces have a double function. The first one is to determine the position of hand/body and forces and the second one is to display the forces and positions to the user.

Qualities of force reflecting interfaces include low back-drive inertia and friction. The range, resolution and bandwidth should match

those of the human. Lastly, ergonomics and comfort should be considered when designing a haptic interface, since pain or discomfort supersedes all other sensations.

The design of touch could be improved substantially. If we can achieve a sense of reality with visual media (e.g. movies with 30 frames per second), then there is a lot of room to improve the tactility of the environment around us.

3.

Case Studies of Related Works

The following studies all employ different concepts that were also explored in the CityBeat project. Urban setting, displaying real time information, transforming the information in a distant location and the heartbeat metaphor are all explored in the CityBeat installation and these artworks. I purposely chose to describe works that fall into the category of public art and emotional art. Signs of Life and the D-Tower are both conceptually close to the CityBeat project, as they both display the information gathered in the city. They are both developed for a particular place, a village and a small city, although they could be repeated in other places as well. All of these works rely on the sense of vision; therefore their experience cannot be compared to the haptic Citybeat installation.

Wooloo, Signs of Life

Signs of Life (Zeichen des Lebens) is an installation set up on the roof of the train station in Brück, Germany. The installation displays the number of people living in the village, which is ever-changing. The decreasing population becomes visible through a digital counter. Though this data, social tendencies can be sensed, such as migration from villages to cities etc. The installation is made from an aluminum box containing an electronic system.

Invisible information is transformed into the visible through this work. The numbers are a constant reminder of the social situation in the village. The work was produced in collaboration between Wooloo and the municipality of Brück. Wooloo is a Danish artist group started by Sixten Kai Nielsen, Martin Rosengaard, and Russell Ratshin. Aside from operating as an art group, Wooloo also launched an online community that connects cultural producers and artists.



Right:
Wooloo
Signs of Life, 2011

Rafael Lozano-Hemmer, Pulse Park

Pulse Park was an installation set up in Madison Square Park in New York. Using light beams, the heartbeat of an individual was displayed across the park. People were invited to hold on to a sensor, which then sent information about their heartbeat to the light installation. People could access the two sensors on top and bottom side of the park. After receiving the information of the rhythm of the heart, different spotlights were arranged in an oval shape (which is the inner shape of the park). This would start beating accordingly. The visitor could see his heart beating through the light installation. The installation uses renewable biofuel to power the lights. Lozano-Hemmer found an inspiration for the installation from listening to the heartbeat of his unborn twins and from the film 'Macario' by Roberto Gavaldón (Mexico, 1960), in which the protagonist sees people transform into lit candles. The Pulse work was also shown in a different form (Pulse Room) in Venice Biennale.



Right:
Madison Square Park Conservancy
Pulse Park, 2008

Q.S. Serafijn, D-Tower



Like Signs of Life, the D-Tower installation in Doetinchem, the Netherlands, gathers information from the city. Rather than gathering statistical data, people provide their own information on how they feel. Different feelings are recorded and then displayed through different colors, which light the 12m high tower. Happiness is represented by the color blue, love by red, fear by yellow and hate by green.

Feelings are recorded every second day through a questionnaire that is sent to inhabitants who have decided to participate in this project. The questionnaire has 360 simple questions: for example, are you afraid etc. These questions should be answered in an abstract way (yes, no, not applicable etc.). All the answers have a score and are then processed in a statistical way and assigned a color. The installation records the zip codes of the participants, to avoid collecting data from people who do not live in Doetinchem. Based on that it is possible to see which street is the happiest, where people feel most loved etc. The work also serves as a medium between different inhabitants (who are encouraged to start a dialogue through the website) and is a communication platform between the city and its residents. Every survey lasts for six months and starts over with new participants each time.

The artwork consists of the organic tower-like installation, a website and a questionnaire. The work is a collaboration between an artist (Q.S. Serafijn), an architect (Lars Spuybroek / nox-Architekten) and the Doetinchem municipality. The website of the project can be found in the reference list.

Left:
Freek Moog
D-Tower, 2009

4.

CityBeat, the Process: Detailed Description

One way of investigating cities is by using organisms as a metaphor. If a city is an organism, can one physically feel the heartbeat of a city? With this question, we set about identifying where and how the heart of the city can be measured. The initial idea was to provide people with a means to connect with a city by feeling that city's heartbeat with their hand. This idea began to evolve, with emphasis placed on the type of interaction that would best create the experience of being able to physically feel a city's pulse. Many forms that emerged in this early part of the process involved full body contact with a physically responsive object. Also of integral importance was the data used to dictate the physical output of the object. We searched for the elements that contribute to the pulse of a city, from financial transactions to influx and outflux of residents, pollution levels, traffic, crime, birth and death rates. Ultimately, we decided to combine the monitoring of sound from the city environment with population density statistics. Population density was translated into the 'base' heartbeat and fluctuations in the heartbeat were affected by the continuously changing sound levels.

We decided to concentrate on the metaphor of a heartbeat, since a primal biological function such as a heartbeat is something that can be understood by anyone. Tactile information, as opposed to visual information, is something we are very unfamiliar with. As we already argued, we live in a society that favors the sense of vision.

Information is most of the time perceived through visuals and by emphasizing this sense, we gradually lost the ability to use other senses in such a refined way. To understand something as abstract and complex as a city, we wanted to use a metaphor we can all

understand. A healthy heartbeat, or arrhythmia, are conditions that we are all familiar with and we know how to interpret them.

The installation recorded heartbeats from four different cities (Helsinki, Lisbon, Riga, London): four different organisms. Helsinki does not have an obvious central location, such as a square, so we identified the central railway station as the city's heart, as it has 200,000 people passing through it each day. Helsinki, one of the northernmost capitals, is home to about half a million people. Many workers from suburbia commute to the center through an organized and highly effective transportation system. Unlike many other (European) capitals, public transportation in Finland works extremely well. Perhaps this is due to the fact that the city is usually covered with snow between December and April. In the coldest months, residents rely almost solely on public transportation since it is not very pleasant to walk in sub-zero temperatures. The underground network of metros, buses and trains that connect the central railway station to other, more distant places in the city is usually very busy. Therefore, the metaphor of a heart (pulse) is a very convenient one when looking at the mass of people descending and rising from the metro, tram, train or a bus. A central railway station is perhaps a valid place for pulse measurement in many other cities as well, especially when one considers that historically, the train station in a city meant economic and consequently population growth. In other cities, we had people involved in the bigger EPAC project, which our installation is a part of, to help us with installing the phones and determining the 'heart' of their city.

One of the core ideas being explored in this project is the transmission of data from one location and its total transformation at another location. This becomes an interactive experience embodied in a physical form. This opens a narrative about the meaning of information, something which exists and is experienced almost entirely in the virtual domain nowadays, on the Internet and on

computer screens. Yet a lot of that information comes from the real world. This project tries to question what we perceive to be a lack of connection to the phenomena we know to exist in the real world, a connection that is somehow disintegrating, as our lives and connection to the real world is transferred online. If our connection to the city exists on the size of our screens (smart phones, Google street-view, information displays, urban visual messages etc.) then, we argue, the ability to be able to experience the real world becomes increasingly limited to a reduced dimension of experience.

This project attempts to reconnect people to real world information with a real world experience. The city is a perfect example. This project posits that in modern western society at least, people move through the city in an increasingly reduced sensory existence. A person's sensory awareness of the city exists at a purely functional level, to get them safely from point A to B. The reliance, therefore, is on the sense of vision and hearing. If a person spends the majority of their time in a city environment in this state, a type of touch sensory suppression occurs as outlined by Juhani Pallasmaa (2005): "I wished to express the significance of the tactile sense for our experience and understanding of the world . . . to create a conceptual short circuit between the dominant sense of vision and the suppressed sense modality of touch". We would take the noise that represents the hustle and bustle of the central station and acts as the metaphor for the city's pulse and relocate and transform that noise in a place remote from the source. The transformation takes a tactile nature so that people can physically feel the information. By using touch we are hoping to reawaken a suppressed sense. The experience of touch is one that embodies intimacy, and reawakens emotive memories. Using this we hope to reconnect people or reinforce their connection with the city space.

On a practical level, we developed software that translates sound recorded in each city and population density numbers to a

heartbeat. We record sound with a mobile phone, which is placed in an optimum location and streams live to the location of the installation in Lasipalatsi. The incoming data is processed and forwarded to the corresponding heart on the installation. We use bass shakers to create the distinctive notes of the heart. Each surface acts as a membrane, tangibly moving upon each beat. It is this movement of the membrane that people can explore, touching with a single hand or pressing their whole body up against the surface. The installation is covered in a layer of concrete. Concrete is the material of cities. Yet it is a material that we consider hard, rigid and perhaps cold or inhuman. When we touch concrete, we feel these characteristics. When touching the installation, this impression of the material and thus the meaning of the material should dissolve.

By using digitally modified data to represent an 'organic body function', we are making an invisible city visible or tangible. The same digital techniques that make us experience the environment in a limited way are now being used to enhance our senses. The cities are growing and the CityBeat installation is an answer to highly impersonal (and often digital) travel across the city space.

We were very lucky to be able to choose the location of the installation ourselves. It is important to be aware of the symbolic values of architecture or urban environment. To be able to understand the space as foreigners, we consulted several Helsinki residents. Lasipalatsi square was found most suitable for our intervention.

The Lasipalatsi square in Helsinki is a lively place and connects the central parts of the city with two of the main metro stops on each side, as well as the train station on one end and the main bus station and the shopping centre on the other. It is visited by approximately 10.000 people each day. The square is a popular place in the summer, with terraces outside that attract people of all ages. It has a symbolic value for the city and is known as an artist

intervention space as well. Although all this sounds promising, the square does not live up to its full potential. Often messy and frequented by drunken people during the night, it is not a space where one would stop and enjoy the urban space. Apart for the summer months when the terraces are open, the space does not offer anything that would make someone enjoy their environment or become aware of it. The square is dominated by functionalist 1930s architecture. We took the presence of the nearby buildings into account when designing the final installation.

by Mina Arko and Ben Dromey

5.

Timeline of the Process



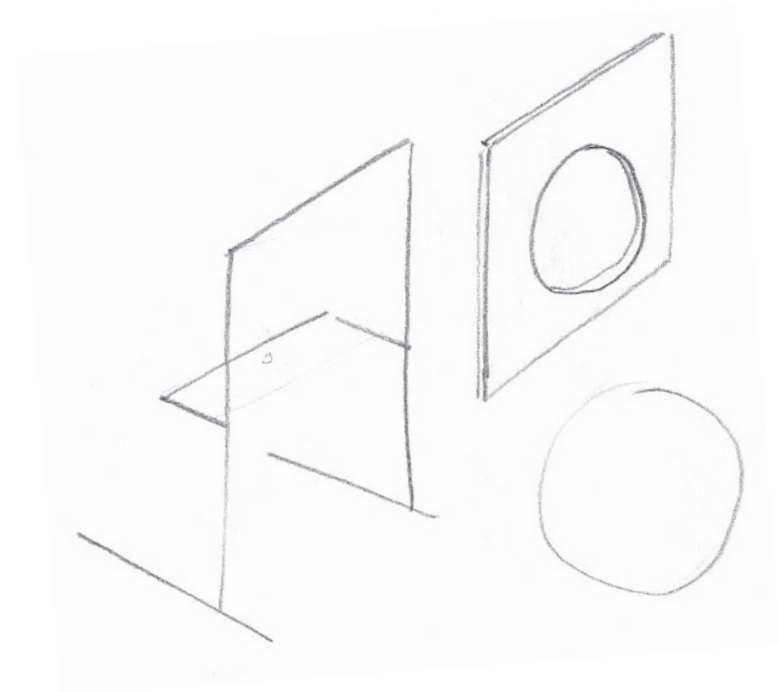
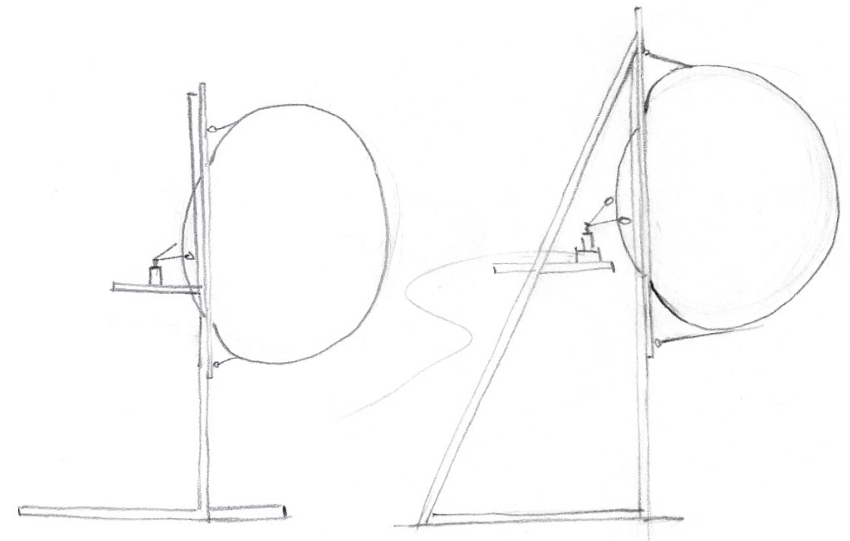
Mina Arko
Uncovering CityBeat, Lasipalatsi
2011

2010, March

I presented a rough idea of the CityBeat project during the course Introduction to media art and culture in MediaLab department. I was looking for collaborators after the course was finished and began working with MediaLab student Ben Dromey.

2010, April

We started testing various materials and shapes and finally decided to use a 120cm wide balloon covered with white stretchy cotton as the interface. At this point, we recruited a fashion design student to help us with the sewing of the fabric and designing.



Ben Dromey
CityBeat sketches
2010

2010, May

We presented the first version of Citybeat during Demo Day, a biannual event held by the Media lab department in Aalto University. The data we used was gathered from the Finnish statistical database. We compressed the information from births in Helsinki during 2009. One week of births was compressed into one minute. During Demo Day, we tested the interactivity and collected feedback. What we gathered is that people would probably respond to the information better if they felt it was streamed live. We also questioned the data we used and decided to test other kinds of information, such as sound.

2010, June

We exhibited CityBeat for the first time in Myymälä 2 gallery in Helsinki, Finland. Since we were unable to get live sound recording, due to the tight schedule, we transformed pre-recorded data into the heartbeat. To obtain a good representative sample of sounds, we recorded the Helsinki train station on Friday evening and on Saturday morning. We then merged the sounds together into a representative sample of sounds, which was the basis for the translation to the heartbeat.

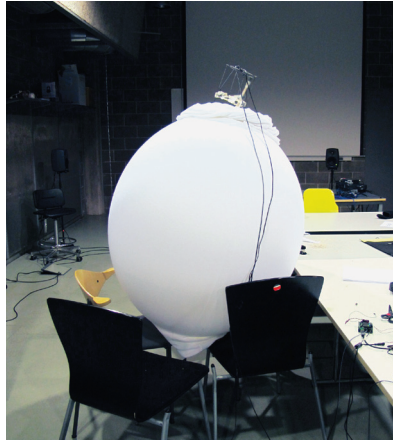


Mina Arko
CityBeat Demo Day
(top left) and
Myymälä2 Gallery
2010





Tekla Pohjolainen
Aalto School of Art and Design Lobby
2011



Mina Arko
Balloon with Drum
2011

Page 73:
Tekla Pohjolainen
Aalto School of Art and Design Lobby
2011

**2010, September-December
2011, January**

We held meetings with media artist Heidi Tikka, Environmental Art Backgrounds teacher Cathérine Kuebel and researcher Till Bovermann. City-Beat operated under the guidance of Production Clinic with Pipsa Asiala. We also joined the special interest group Tangible Auditory Interfaces. During this autumn, we analyzed and found examples of media art that we could use as case studies for later work. Our priority was to make the real, live data transmission possible and meaningful.

2011, February

We presented another version of CityBeat during the exhibition in the Taik's school lobby. We used sound from Kipsari, the student cafeteria. We placed a laptop with a microphone in an invisible place and streamed sound through the wireless network to another computer in the school's lobby. This was then wired to a motorized drum that was beating on the top of the balloon. When you touched the balloon, you could feel the fast or slow heartbeat, depending on what amount of activity was happening in Kipsari. The heartbeat became very alive during lunch hour and you were able to feel different parts of the day through touch. We did not change the interface much, but we did change the shape of the white cotton over the balloon. Instead of the pure white ball, we now had a more organic shape that was attached quite well to the ceiling and the bottom. With this change, we hoped that people would not feel too afraid to approach the piece which was the problem in the previous versions of the work. We worked on the drum, which was more sophisticated than the one we used in Myymälä 2. During the exhibition in the lobby, we contacted several artists from the school and asked them for feedback. Additional feedback forms were also put next to the piece. We did not aim for a refined finished piece; we were more interested in how people perceive the real time data and if we were successful in getting the people to interact with the ball more.



2011, March, April, May

During my student exchange in Victoria University in New Zealand, I prepared the theoretical base for my thesis work. We also applied to several open calls and were chosen to design a public exhibition in collaboration with the Finnish BioArt Society. They were one of the seven organizations from different European countries participating in a larger European Public Technologies Exhibition (EPAC). Each country got a large vitrine box to display the work and each work travelled to a different location.

2011, June, July

In constructing the CityBeat for EPAC, the funding made it possible to hire another Media Lab student to work on the software and the construction part. We had the basic idea, but we had to start from scratch, since we were limited to using a large vitrine. Another challenge centered on how to build the work for the public use outside. We decided to record 4 different European capitals (all of them were a part of EPAC). Producers from these countries helped us installing the phone in the central location of Riga, London and Lisbon. We installed the Helsinki phone in the Railway station. Before choosing the final location of the installation, we built a 1:1 model out of cardboard and carried it around the city to observe how an object this size might fit in the physical space. We used 4 bass shakers to produce a heartbeat vibration on each side of the cube. The interior of the cube was

using foam as an insulation material to prevent the vibrations to interfere with each other. An algorithm was created using the population density and the sound values which were streamed live from the capital cities. Finally, we covered the construction with concrete.

2011, August-October

The exhibition in the Lasipalatsi ran well, although we had some minor problems regarding the software, Internet connection and the construction. We knew from previous exhibitions that this kind of work demands constant supervision. By the end of the exhibition we successfully managed to make it work very well. We also observed the interaction and talked with the people who were interested in the work. From all this experiences, we were able to build an even 'better' version for our next exhibition in Riga.

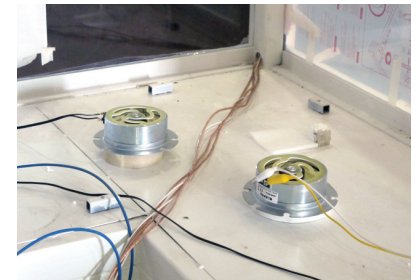
Ben Dromey
Helsinki City Center
2011



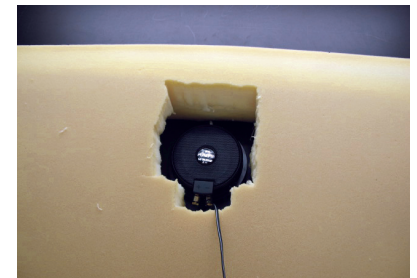
Howard Bowland
Setting up the Phone, London
2011



Mina Arko
Bass Shakers
2011



Mina Arko
Foam Insulation
2011







Pages 76, 77:
Mina Arko, Ben Dromey
Citybeat Construction
2011

Left:
Ieva Štrale
CityBeat, Riga
2011

2011, November-December

We repeated the exhibition in Riga, Latvia and travelled there to build it. The location of the installation was moved at the last minute from the city centre next to the Art Academy and National Art Museum, due to the national day parade. We could use the Internet connection from the Academy, which was better than the wireless connection. However, the location was not very appropriate; CityBeat was put in the middle of the pavement, close to the bus stop. Even so, minutes after installing the work, we could already see people approaching and touching it. Latvians seemed less afraid of the interaction than Finns.

6.

CityBeat, the Final Installation

The following visual material is a detailed presentation of the final CityBeat installation. As part of the documentation, a short video was produced, which describes the working process and the initial idea with video material which was collected throughout the installation building. I am attaching a CD containing the video to this book. The video can also be seen on the YouTube website. We have been documenting every step of the process on a blog in the form of a diary. Together with the exhibition, we also produced an official CityBeat website. These materials can be found under the list of References: CityBeat Online (page 103).

Pages 83, 88, 89:
Till Bovermann
CityBeat Opening
2011

Pages 84, 85:
Tekla Pohjolainen
CityBeat Opening
2011

Pages 86, 87:
Dušan Jovanovic
CityBeat Opening
2011





RIGA

LONDON





7.

Final Thoughts: Art or Not

During the process of making CityBeat, we have had numerous discussions on the nature of this work. I would like to use the final part of this thesis to explain why the CityBeat is not an artwork but rather has other qualities that can define it in some other ways.

As I am not an artist, I feel reluctant to discuss the subject without substantial theoretical or practical knowledge about the arts. I was never trained as an artist and it was not my intention to create a work of art, although CityBeat was often interpreted as an artwork.

Terms like Interactive Art or New Media Art seem limiting, because they define the work through the tools the work employs. In recent years, many practices, design collectives and studios have been producing work that cannot be described through simple definitions. This new territory, which is best left undefined, uses technology, art, design, philosophy, biology, computer science, cognitive sciences etc. I would place our collaborative work with the CityBeat installation into this field. The moment we start describing this type of work, we unconsciously form borders around it and assign certain meanings to it. At this early stage of the movement (it is being recognized as a movement in certain media), freedom is more important than definitions, because it can allow for the necessary space which is needed in such beginnings.

The CityBeat project is first of all a collaboration between people with different knowledge, backgrounds and ideas. Transforming a physical space to an abstract concept and back to a physical space, in the form of a tactile interface, was the aim of the collaboration. The CityBeat as an object can eventually become a product, an

architecture (a building) or a platform for displaying various kinds of information. It is not an end in itself and has not reached the final destination. The word project (CityBeat project) was chosen intentionally to illustrate the continuous development of this work.

Collaboration added an interesting aspect to the work. Although I provided the initial rough idea, it changed and took on a life of its own through dialogue with co-workers and fellow designers or artists. At the beginning of the working process, it was impossible to imagine what will actually happen during the next stages of the process. Working in a collaborative environment meant that no one was in charge of the idea or any part of the process; in other words, there was no hierarchy. We gave tasks to each other based on our needs or lack of knowledge and we made decisions based on past results. There is a difference between producing works with the help of other specialized professionals (where only one person is in charge and responsible) or forming collaborations in orders to produce such works. A complex work such as CityBeat could not be produced with the knowledge of a single person. A number of disciplines and areas of knowledge, such as design, technology, art, urbanism and philosophy, were used in the working process.

CityBeat and Co-Experience

I will use the concept of co-experience (Battarbee, 2007) to explain the aspect of social interaction of the CityBeat installation. Although we did not design the installation from the point of view of co-experience, it later showed that co-experience was a crucial factor in experiencing the work. I have observed the interaction on various days throughout the duration of the exhibition during different parts of the day. When individuals approached the installation, they felt a bit reserved and were not encouraged to touch the cube. The installation itself looks like a part of the nearby construction site and therefore does not invite the people to approach it in

the first place. What happens is that when a curious person comes closer and touches the installation, this gesture invites others to join the experience. The unusual invitation to touch the 'work of art' in a public space is tempting enough to break the social code of not reacting too much to one's environment. When other random people join in touching the installation, spontaneous interaction happens between these strangers. After feeling the unexpected heartbeat, people would look, smile and nod at each other.

We were not designing a 'product', although our process resembled design methods that are usually employed in such work, so we had no time or budget for 'real' prototyping. We were lucky enough to exhibit CityBeat twice in two different locations. Our Helsinki exhibition served as a prototype for the exhibition we had later on in Riga. Battarbee (2007) suggests ordinary social setting, naturalistic research design and methods, openness, sufficient time span and sequential unfolding of events as key elements in designing for co-experience with prototypes. Ordinary social setting was provided by the space of the installation, which was the Lasipalatsi square, between Laituri and Lasipalatsi in the centre of Helsinki. In this setting, observation of people from a hidden location was possible. We did not employ any method other than observing the interaction of people, which we would have if we were to design an actual product. Battarbee refers to openness in research as the possibility of interpreting different meanings that the product might convey. During the process of creating and observing the installation, we kept many possibilities in mind. We made decisions in our work based on conclusions we gathered from discussions and observations of interactions with previous versions of the CityBeat installation. The exhibition lasted for four weeks, which gave us enough time to think about and prepare in advance the changes we later used in the Riga exhibition. We were making fine changes in the translation from the sound to the heartbeat. We also decided to include a drawing of a hand touching the installation on the

information tag attached to the bottom of the piece. The unfolding of events and change of time and context were also an interesting element to observe. Without constant supervision of the installation, it would be difficult to know how many of the people who have already experienced the work returned to absorb the information again at other times of the day. One thing we had in mind but could not predict were the changes of the season. We opened the installation on one of the warmest days in August, during the Finnish summer and closed it in October, when the weather was cooler and less people were encouraged to spend time outside. We opened the exhibition in Riga in November and people were already starting to wear gloves, which made the experience different, as they could not feel the concrete in combination with the heartbeat.

With this work, we hoped to create a meaningful experience that would open the mind to several questions. What does it mean to display information in a non visual way? How can we relate to heartbeats or sounds from other realities or distant places? Can we restore the connection between our environment and ourselves through this piece?

Public Art and Technology

At this moment it is impossible to produce a public installation that would use everlasting technology. Since technology itself is advancing extremely fast, we can expect that in the near future, we will be able to build technologically complex installations that will not demand constant maintenance and can work without human supervision for longer periods of time. There is still a big difference between making a painting or computer software in terms of longevity. Since we were not designing CityBeat as a product, we did not aim for a technologically perfect work. Our equipment more resembled the organic city, built up from different hardware and software elements that are not commonly used together. Handmade

pieces and custom made programs were prone to mistakes. There was also the human element; we had to communicate with people from London, Lisbon and Riga and make sure they were using and setting up the cell phones correctly, that they charged them etc. We had to make sure they were keeping it someplace safe and not directly exposed to the weather conditions.

During the time of our exhibition, we had to fix the installation several times. Main problems were the wireless connection, communication and setting up the mobile phones in distant locations (London, Riga, Lisbon) as well as occasional physical damage of the work caused by weather etc. The electricity cable was cut at some point. We had to visit the installation every day to check if it was still working and we sometimes spent hours fixing it. By the end of the exhibition, we managed to make it work smoothly although with our technology we could not guarantee that nothing would go wrong, although we had almost no problems with the later exhibition in Riga. The eternal fixing and physical maintenance was challenging in many ways and opens up a question about how fragile and unreliable technology is at this moment.

It would be interesting to develop an eternal CityBeat, a self sustaining piece of technology that could last forever.

8.

Silent Image: No Image, New Image

As a graphic designer, I am responsible for constantly bringing new images to a world that is already bursting at the seams with visual overload. Therefore, I find it necessary to question the responsibility of an image and my role in designing or creating images. The following thoughts might serve as a personal manifesto, my way of responding to the current situation the way I see it.

Technical development during the last few decades has shortened the period of designing and producing images significantly. Software and printing technologies are being refined every few months; therefore, an image can be instantly produced, instantly absorbed and instantly forgotten. An image is not created to survive, gain emotional power or meaning. It is a commodity. As commodities, images compete with each other in order to win our attention and enter our inner world, our thoughts. Images guide our mind. Our brain is capable of remembering everything our eyes ever saw and we explain our world based on these sometimes forgotten images. Although an image has the ability to become an important part of the collective memory, or to transcend to a symbolic stage, it rarely has the power to do so. Because of the massive visual production, the image lost its emotional power. The image is not to be trusted anymore.

I am proposing a different way of making and displaying images. If we look at the image as a latent thought, a piece of information ready to be molded, designed and shared, we could consider using a sense other than sight to absorb this new image. Could we live in a world less populated by images and as a result less dominated by the eye? We are not encouraged to touch, hear, taste and

smell our world. Instead, we represent these multiple sensations with only one, sight.

The term Silent Image refers to the other qualities of an image. When we disregard the visual side of an image, we are still left with the same ingredients that made this image in the first place or its silent (invisible) counterparts. This silent image can be a starting point for making an image that is not relying (solely) on the sense of vision.

An image is always information displayed in a way that conveys a particular meaning. Invisible, abstract information manifests itself into the visible through the act of design. This invisible image is at first conceived in thought and is always latent in the beginning until it slowly becomes visible through the meaning and the shape we assign to it. The process of this transformation is becoming shorter.

We use images to navigate through time and space; they enable our mental and physical orientation. An image is everything that we absorb at any moment of our lives through our sensory system. And we are also an image of ourselves.

We can spend our lives being fully aware of our actual reality, or we can look at images and imagine these sensations. In *Allegory of the Cave*, Plato illustrates the frustration of not being able to see the true world (of Ideas). He describes our world as shadows, projected on the wall of the cave by the fire behind us. We are chained inside the cave and unable to see the real world outside. The task of philosophers (or dare I say designers) is to discover and introduce this world.

Graphic design should expand its borders and start a broader discourse on various ways of representing an image, such as tactile, aural images etc. The creation of the Silent Image should also not

be in the domain of only one discipline but of many, since complex knowledge is needed in producing such images. Programs should be developed that would support these explorations on their practical and theoretical levels.

Although design is a practical discipline, designers themselves are not 'responsible' for the actual production of artifacts. At this point (in history) they are merely a link in the chain of production. The designer's attempt to create content are often wrongly interpreted as 'art practice'.

The mass production of our era is most visible in our urban environments; therefore, we should focus on examining and redesigning the image of the city space.

The real world is an intense, overwhelming place. We narrow our perception of this reality through the design of our environment and through underestimating ourselves as capable of such sensations. The question is not how to see the world but how to feel it.

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